

Appl. No. 09/705,572  
Amdt. Dated July 5, 2005  
Reply to Office action of: April 4, 2005

### **REMARKS/ARGUMENTS**

In the office action dated April 4, 2005, the Examiner rejected Claims 1-7, 9, 10, 12, 29-39 and 41-45 and claims 13-28 were objected to. In this response, claims 1, 14, 17, 34 43 and 45 have been amended and claims 12 and 13 have been cancelled. Claims 1-7, 9-10, 14-39 41-45 remain pending. The Applicants respectfully request reconsideration of the application by the Examiner in light of the following remarks.

#### **Claim Objections**

The Applicants thank the examiner for pointing the informalities in claim 13. Claim 13 is cancelled.

#### **Rejections under 35 U. S. C 101**

Claims 34, 35 and 45 are rejected as they are directed to non-statutory subject matter. The Applicants respectfully traverses the rejection.

The independent claims 34 and 45 have been amended to recite methods for generating a predicted performance for a fabricated part wherein the program does not merely manipulate data. Rather, the methods predict the performance of fabricated parts by taking input parameters and generating a useful prediction. This prediction may be used to reduce the trial and error involved in the fabrication process. Therefore for the reasons discussed above, the Applicants submit that claims 34 and 45 recite patentable subject matter and should be allowable. Claim 35 depends directly from claim 34.

#### **Rejections under 35 U. S. C 103**

Claims 1-7, 9, 10, 12, 29-39 and 41-45 have been rejected as being unpatentable over Coe et al. (US patent No 5,136,497) in view of Wayne et al (US patent no. 5,136,497)). The Applicants respectfully traverse the rejection.

Amended independent claims 1, 34, 43 and 45 include the limitation wherein the

Appl. No. 09/705,572  
Amdt. Dated July 5, 2005  
Reply to Office action of: April 4, 2005

computer generates a process window and a thinwall prediction in a mold is made. The Examiner indicated in the office action of April 4, 2005 (page 2) that claim 13 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Coe et al. discloses a materials consolidation -control system (MCCS) for the design and evaluation of material consolidation processes. MCCS provides user interactive, on-line control of product properties through a combination of on-site sensors and process/component simulation output. In one embodiment of the MCCS, the system is set up to simulate and control consolidation of powder material compacts using hot isostatic processing (HIP).

The process control system as described by Coe et al. involves a hierarchical control system comprising a PID feedback loop and an MCCS feedforward loop is also provided. As shown in Fig1a, the MCCS computer 10 is designed to receive process sensor data 20 and then provide process control parameters 22 to a PID controller 24. The PID controller performs proportional, integral, and derivative calculations of the scheduled input to, in turn, derive control signals 26. The control signals 26 are then provided to a heater and pump (not shown) located in HIP chamber 28. Therefore clearly Coe et al. describes a process control system, which collects on-line data to complete the control process.

In the present application, the simulation system involves predicting performance of a fabricated part by generating a process window and a thinwall prediction in a mold. Amended independent claims 1, 34, 43 and 45 recite simulation systems or methods for generating a predicted performance for fabricated parts comprising a rheological degradation database for storing a plurality of rheological degradation data for associated materials; a mechanical degradation database for storing a plurality of mechanical degradation data for associated materials; a computer coupled to said rheological degradation database and said mechanical degradation database for computing part performance predictions for a respective material with a predetermined geometry under predetermined processing conditions, partially based on said rheological degradation data and said mechanical degradation data. Therefore the prediction is purely based on data from the two databases depending on the associated material for processing.

Appl. No. 09/705,572

Amdt. Dated July 5, 2005

Reply to Office action of: April 4, 2005

Coe et al. neither disclose nor suggest predicting a fabricated part performance using information stored in databases. The systems described by Coe et al. depend on the on-line data collected from the process in real time. Coe et al. do not disclose generating a performance prediction in a mold in order to predict a fabricated thinwall part performance.

For the reasons discussed above the Examiner has failed to establish a prima facie case of obviousness. Therefore the Applicants respectfully submit that amended claims 1, 34, 43 and 45 define allowable subject matter over Coe et al. in view of Wayne. Claims 2-7, 9-10, 14-33, 35-39, 41-42 and 44-45 depend directly or indirectly from independent claims 1, 34, 43 and 45 and in view of the reasons discussed above, the Applicants respectfully submit that claims 2-7, 9-10, 14-33, 35-39, 41-42 and 44-45 are similarly allowable.

Claims 2-4, 5-7, 9-10 and 35-37 have been rejected as being unpatentable over Coe et al. (US patent No 5,136,497) in view of Davidson (US Pub No 2002/0107676). The Applicants respectfully traverse the rejection. Due to the reasons described above, independent claims 1 and 34 define allowable subject matter. Claims 2-4, 5-7, 9-10 and 35-37 depend directly or indirectly from independent claims 1 and 34 and therefore are similarly allowable.

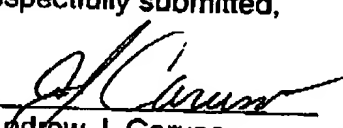
Appl. No. 09/705,572  
Amdt. Dated July 5, 2005  
Reply to Office action of: April 4, 2005

Summary

Accordingly, the Applicants respectfully submit that the claimed invention defines allowable subject matter over the applied references. Withdrawal of the rejections is respectfully requested, and allowance of the claims is courteously solicited. Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By

  
Andrew J. Caruso  
Reg. No. 48, 520

7/5/05

General Electric Company  
Building K1, Room 3A71  
Schenectady, New York 12301  
July 5, 2004  
Telephone: (518) 387-7354